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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/500,363	06/28/2004	Masahiro Inoue	253736US3PCT	7612
22850	7590	10/06/2005	EXAMINER	
OBLON, SPIVAK, MCCLELLAND, MAIER & NEUSTADT, P.C. 1940 DUKE STREET ALEXANDRIA, VA 22314			MAFAHER, NINA YASMIN	
			ART UNIT	PAPER NUMBER
			2855	

DATE MAILED: 10/06/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

H'D

Office Action Summary	Application No.		Applicant(s)	
	10/500,363		INOUE, MASAHIRO	
	Examiner		Art Unit	
	Nina Mafaher		2855	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-5 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-5 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on ____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. ____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. ____. |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date <u>6/28/2004</u> . | 6) <input type="checkbox"/> Other: ____. |

DETAILED ACTION

Claim Rejections - 35 USC § 102

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

2. Claims 1 and 2 are rejected under 35 U.S.C. 102(b) as being anticipated by Salou (6,619,102).

With respect to claim 1, Salou discloses a hub unit having a raceway connectable to a wheel, a raceway to be attached to a vehicle body and rolling bodies between the two raceways (Column1, lines 11-16), a sensor provided on the hub unit (Column 1, lines 39-41), the vehicle body side raceway having a cylindrical portion and a flange provided with a hole for a bolt for fastening the hub unit to the vehicle body (Column2, lines 4-11), a sensor for detecting the amount of the deformation of the flange of the vehicle body side raceway (Column1, lines 39-41; Column2, lines 13-14), and determining the force or load exerted on the wheel by the ground from the output of the sensor (Column 2, lines 60-61, 63-64; Column3, lines 3-9; Column4, lines 18-21, 25-32).

With respect to claim 2, Salou discloses a strain sensor (Column5, line 25) disposed on a curved surface of the base of the flange of the vehicle body side raceway (Figure 3, #14, 21, 26).

Claim Rejections - 35 USC § 103

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3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claims 3 and 4 are rejected under 35 U.S.C. 103(a) as being unpatentable over Salou (6,619,102) in view of Katano (6,471,407).

With regard to claim 3, Salou teaches the invention as set forth above and further teaches the body side raceway having an elastic deformation zone able to be deformed under the action of forces exerted on the raceway, with a sensor able to measure the forces associated with the elastic deformation zone (Column 1, lines 51-55). Salou does not disclose this sensor as a displacement sensor mounted on either the cylindrical portion or the flange portion of the body side raceway to measure the distance there between.

Katano discloses a hub unit with a displacement sensor for sensing the distance between the body side raceway and another section of the hub, as the sections deform, to find the load applied (Column 7, lines 8-12, lines 23 – 27, lines 38 – 47; Figures 5 & 6, #34).

It would have been obvious to one of ordinary skill in the art, to substitute the sensor of Salou, with that of Katano, for the purpose of measuring the deformation of the body side raceway, since the deformation zone is located between the flange and the cylindrical portion of the body side raceway, causing those two portions to deform in directions to and away from each other. This allows the measured distance there between to be an accurate representation of the amount of deformation as is demonstrated by Katano (Column 7, lines 8-12).

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With respect to claim 4, Salou and Katano teach the invention as set forth above and Katano further teaches the displacement sensor as a magnetic sensor with a magnetized portion at a location opposed to the sensor (Column 7, lines 8-12; Figure 5, #34, 35; Figure 6, #34, 36).

5. Claim 5 is rejected under 35 U.S.C. 103(a) as being unpatentable over Salou (6,619,102) in view of Katano (6,471,407) as applied to claims 3 and 4 above, and further in view of Omata (US 2004/0123677).

With respect to claim 5, Salou and Katano teach the invention as set forth above but do not teach the displacement sensor being of an inductance type.

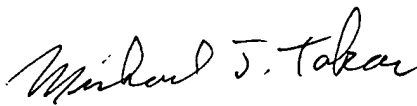
Omata discloses a displacement sensor of an inductance type (Paragraphs 16 and 20). It would have been obvious to one of ordinary skill in the art at the time the invention was made to substitute the sensors of Salou and Katano with that of Omata for the purpose of measuring a distance, since a displacement sensor of the inductance type can be used for detecting and measuring the displacement amount of a moving object by a resolution in a micrometer through nanometer order providing very accurate and precise results (Column 3, lines 14 – 18).

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Remarks

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

NYM


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